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(54) Title: BATTERY PACK DESIGN FOR METAL-AIR BATTERY CELLS

(57) Abstract

A high capacity primary (single-use; non-rechargeable) battery pack for high current portable appliances such as cellular phones employs electrochemical cells that use ambient oxygen for one of the electrodes. The pack makes possible a simple low cost design by providing for oxygen supply in a completely passive yet compact configuration. To provide for compactness while providing the high gas

exchange rates required of high current devices in a passive air management design, a variety of design tactics are developed and applied in various embodiments. Many types of disposable cells are not rechargeable and can cause dangerous problems in appliances that contain hands-free adapters or chargers, such as cell phones. A protective device is disclosed which either limits charging to the degree that charging can be accepted or prevents charging entirely. Various mechanisms for achieving this result are disclosed.

